

SECTION 805 — ELECTRICAL CONDUIT AND FITTINGS

805.01 DESCRIPTION. This work shall consist of furnishing and installing electrical conduit and fittings as specified in the Contract Documents or as directed by the Engineer. The requirements of Section 820 shall be a part of this Specification.

805.02 MATERIALS.

Concrete	902.10
Metallic Conduit and Fittings	921.07.01
Nonmetallic Conduit and Fittings	921.07.02
Flexible Conduit and Fittings	921.07.02
PVC Coated Metallic Conduit and Fittings	921.07.03

805.03 CONSTRUCTION.

805.03.01 Bends. Unless otherwise specified in the Contract Documents, changes in direction of conduit shall be accomplished by use of manufactured bends or by field bends. Changes in the direction of conduit shall have an 18 in. trade radius.

805.03.02 Connections. Conduit runs shall be made with as few couplings as standard length will permit. Rigid steel conduit connections shall be threaded. Field cut threads of galvanized conduit shall be painted with an approved galvanizing repair paint prior to assembly. Nonmetallic conduit shall be connected by a solvent welding process. Fittings for electrical metallic tubing (EMT) conduit shall be watertight cast ferrous compression type.

805.03.03 Conduit Terminations. Pull boxes or conduit bodies shall be used at conduit terminations. Conduits terminating in cast iron junction boxes shall be threaded into hubs with bonding screws furnished and installed on the interior of the box. Conduits terminating in junction boxes without hubs shall be secured with two lock nuts with an insulated grounding bushing furnished and installed. Conduits terminating at concrete foundations and manholes or hand holes shall be secured as specified in the Contract Documents. All ends of unused conduit shall be capped.

805.03.04 Cleaning and Capping. Prior to installation of conductors in any run, the conduit shall be checked for cleanliness and all obstructions removed. Each conduit run and all fittings shall be cleaned of all debris by a pull through mandrel type device inserted in the presence of the

Engineer. All ends of conduits shall be capped by use of a manufactured cap or plug. Prior to the installation of wiring, manufactured caps or plugs shall be removed and an insulated bonding bushing for galvanized rigid conduit, or bell end fittings for PVC conduit installed.

805.03.05 Pull Wire. After installation, all conduit which will be left empty shall have a pull wire or cord installed. Pull wire or cord shall be made of corrosion resistant material with a minimum breaking strength of 200 lb.

805.03.06 Exposed Conduit. Exposed conduit runs shall be parallel to, or at right angles to, walls, slabs, girders, etc. Conduit shall be located to minimize accumulation of dirt and to provide accessibility for painting. Conduit shall be attached to steel, concrete, masonry or timber by straps, clamps or hangers of an approved type made of stainless steel or galvanized malleable iron. Spacing of attachments shall be as specified or as directed by the Engineer. When specified, all exposed rigid steel conduit surfaces shall be painted to match the color of adjacent material. All galvanized surfaces shall be prepared as specified in Section 435 before the application of paint approved by the Engineer.

805.03.07 Expansion Joints. Where conduits cross expansion joints in the structure, or where otherwise specified, expansion fittings shall be of the type that assures electrical continuity across the joint.

805.03.08 Buried Conduit (Trenched). Conduit shall have a minimum cover of 24 in. and shall slope to drain.

805.03.09 Encased Conduit (Slotted or Trenched). Conduit to be encased in concrete shall be accurately placed and rigidly held in position so that line and grade are maintained when concrete is placed.

805.03.10 Conduit Installation Under Existing Paved Areas (Bored). All conduit placed under existing pavement shall be installed with no disturbance to the existing roadway.

805.04 MEASUREMENT AND PAYMENT. The payment will be full compensation for all excavation, backfill, conduit encasing concrete, hot mix asphalt, attachments, hangers, paint, bends, connections, fittings, mandrelling, pull wires and for all material, labor, equipment, tools, and incidentals necessary to complete the work.

805.04.01 Electrical Conduit and Fittings and Electrical Conduit and Fittings Attached to Bridges will be measured and paid for at the Contract unit price per linear foot measured along the center line of the conduit from end to end.

805.04.02 Electrical hand holes, manholes, pull and junction boxes will be measured and paid for as specified in Section 811.

805.04.03 Electrical conduit and fittings and junction boxes to be constructed into concrete structures will not be measured but the cost will be incidental to the pertinent Concrete Traffic Barrier, Concrete Parapet, or other pertinent Concrete items specified in the Contract Documents.

805.04.04 Concrete Foundations will be measured and paid for as specified in Section 801.

SECTION 806 — LUMINAIRES AND LAMPS

806.01 DESCRIPTION. This work shall consist of furnishing and installing luminaires and lamps. The requirements of Section 820 shall be a part of this Specification.

806.02 MATERIALS.

Luminaires and Lamps	950.12
Photoelectric Controls	950.13.02

806.03 CONSTRUCTION.

806.03.01 Arm Mounted Luminaires. Luminaire mounting shall be installed on the respective structures and adjusted as specified in the Contract Documents. The socket positions shall be adjusted to provide the required photometric performance. The luminaire shall include an individual photocell when specified in the Contract Documents.

806.03.02 Bridge Underpass Luminaires. Bridge underpass luminaires shall be installed on structures as specified in the Contract Documents. Luminaires shall be connected and lamp sockets adjusted where necessary as specified in the manufacturer's recommendations.

806.03.03 Cleaning. After installation has been completed and prior to the 30 days performance test, refractors and reflectors shall be cleaned with a product approved by the manufacturer.

806.03.04 Installation. All luminaires and lamps shall be furnished and installed as specified in the Contract Documents or in conformance with the manufacturer's recommendations.